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AN INAUGURAL

DISSERTATION
ON THE
INFLUENZA:

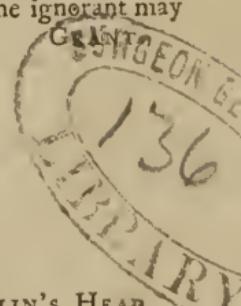
SUBMITTED TO THE EXAMINATION OF THE
REV. JOHN EWING, S. T. P. Provost;
The Trustees and Medical Professors of the University of
Pennsylvania, in order to obtain the Degree of

DOCTOR OF MEDICINE,

On the Eighth Day of May A. D. 1793.

BY ROBERT JOHNSTON,
Of Philadelphia, Member of the American Medical Society.

"The explaining, correcting and confirming the observations of our predecessors is more useful, and as honourable as hunting after new discoveries, of which the truly learned will find but very few, whatever the ignorant may imagine."



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M,DCC,XCIII.

DEFINITION.

THIS is a disease capable of being propagated by contagion, and consists in a preternatural and encreased secretion of mucus from the membrane lining the nose, fauces, and bronchiæ, accompanied with a cough, dyspnœa, and a great tendency to sweat.

For Elijah Perkins, M. D.
from his friend the Author.

I N T R O D U C T I O N.

THE Influenza seems to have been known to the earliest medical writers whose works we have an opportunity of consulting; yet, from a variety in some of its most prominent symptoms, it has received a great many different names, and sometimes, been considered as a new disease. Among the writers from Hippocrates to Sydenham, it is generally called *Febris catarrhalis epidemica* (1); but in 1673, the latter supposes it to be a *new fever*, and names it accordingly.

It is curious to remark the regular, and constant pace which the science of health and philosophy have kept with each other. As long as philosophers imagined the elements of natural bodies to be four, physicians supposed human bodies to consist of as many humours: but as soon as the corpuscular philosophy became pretty generally received, medicine discovered her “*acrimony, spiculæ, and faltæ of various sizes* (2).”

In like manner, when astrology took the lead of true science, and people began to fancy all terrestrial things were governed by the heavens, some Italian doctors found out that this distemper proceeded from the *influence of the stars*, and therefore gave it the name of INFLUENZA.

(1) Motherby's Med. Dict. under the word Influenza.

(2) Black's History of Medicine.

Some assert that the disease now known by the name of influenza cannot be the same with that described by Sydenham, as the influenza is manifestly contagious, and the great Sydenham, a strict observer of nature, makes no mention of any such property belonging to that which he describes. Hippocrates was certainly as attentive, and as sagacious as Sydenham, yet he discovered not (what was much more easily discoverable) the circulation of the blood; a circumstance at which we justly wonder,—that it possibly could have escaped the observation of a person much less attentive, and enlightened than he who is with propriety styled the Father of the healing art. The sameness of the symptoms, however, indubitably proves the identity of the *Tuffis Epidemica* and the modern influenza. Dr. Grant in a letter to Doctor de la Cour, says that he has carefully attended to the beginning, progress, and termination of the influenza, and finds upon comparison that the same has been discussed by the English Hippocrates long before, “*in as masterly a manner as the subject does admit of.*”

History of the Disease.

As a description of this distemper may be found in various publications, I shall content myself with a short account of it, as it appeared in the city of Philadelphia, in the year 1789.

The influenza made its appearance in the month of October, previous to which, and for some weeks after, the weather was dry, cool, and pleasant. It commonly set in with universal lassitude, with chills, and fever; an acute pain in the head, and eye-balls; not unfrequently a considerable itching in the eye-lids; and some had a swelling and inflammation of the eyes. There were some also who had abscesses formed in the frontal sinuses*.

* Rush's Manuscript Lectures.

A sore throat, hoarseness, and a pain in one or both ears, in some cases ushered in the disease; whilst in others it came on with a violent sneezing, followed by a discharge of acrid matter from the nose, which often excoriated and inflamed the upper lip. In some cases the nose dropped blood, nay, in some it ran in streams; and in one case related by Dr. Rush in his Lectures on the Theory and Practice of Physic (3) the discharge in this way amounted to twenty ounces.

Most persons had a bad taste in the mouth, attended with a want of appetite, though some few had their appetite preternaturally increased. A sore mouth was no uncommon attendant on this disease, and some had a severe tooth-ach, swelled jaws, &c. nor did the tongue entirely escape; for in some it was so swelled as to occasion a considerable defect of speech.

The breast was often affected with acute darting or flying pains; these sometimes became fixed, and suddenly brought on, or were accompanied with a painful and laborious respiration. A cough universally attended this disease, which was sometimes convulsive, and extremely painful; in some it brought on a spitting of blood, and two persons died in the act of coughing*.

The stomach was sometimes affected with nausea, and vomiting, and in some the disease seemed to fall upon the bowels and was carried off with a diarrhoea—though in general the patients were either costive or regular.

(3) Which commenced in November 1790, at the College of Philadelphia. It is with pleasure I embrace the present opportunity of acknowledging my great obligation to his valuable lecture on the influenza, for several of the particulars of its history of symptoms here related.

* Rush's Manuscript Lectures.

The violent pains which in many persons affected the limbs, very much resembled the rheumatism ; but those which were felt in the loins and thighs, were remarkably severe. Profuse sweats over the whole body very generally appeared at some time or other during the course of the disorder, and sometimes with obvious advantage.

The pulse was various ; sometimes tense and quick, but seldom full. The fever remitted about the fourth or fifth day, but the cough often continued several weeks after every other symptom had disappeared (4).

The most remarkable circumstances respecting this disorder were the miliary and erysipelatous eruptions which in some instances, accompanied it, and the great tendency which the fever manifested to degenerate into Typhus.

Although it affected persons of both sexes, and of all ages, it was observed that it seized few children below five years of age ; and a physician of this city, whose practice is very extensive, assures me that he remarked *old people* as well as *children*, were less subject to the influenza than persons in middle life.

Diagnosis.

The influenza is not likely to be confounded with any disease except the common catarrhi, which [though it appears with nearly the same symptoms, and like it, often seems to come on in consequence of the application of cold] may be discriminated from it, by coming on with more cold

(4) Hippocrates in his Book of Epidemics has this passage, in which there is a striking resemblance of circumstances, and symptoms : " Those who have coughs in the winter, and especially with the southerly winds, are subject to fevers during their hawking up much thick matter ; but then they commonly cease in five days. But coughs will extend to forty." Clifton's Hippocrates. Page 214.

shivering, by the febrile symptoms appearing earlier, and being more considerable in degree. It moreover gives a more sudden and violent shock to the strength, and in many instances produces a perpetual watching, followed by a disorderly and uneasy state of the mind, materially different from the phrenetic delirium of the febris ardens incident to patients labouring under catarrhs from cold, or such like inflammatory diseases.

It is likewise distinguished by its affecting more persons at once, spreading over a greater extent of country in a given time, and in being [more] contagious. The influenza is sometimes accompanied with miliary and erysipelatous eruptions, but the catarrh from cold is not. The latter is slow in its advances, seldom giving alarm until, perhaps, long after the existence of danger, whilst the former, for the most part less dangerous, excites immediate terror, as well by the number of functions which it affects at the same instant, as by the rapidity of its progress; for in the influenza the transitions from apparently high health to sickness are often, as it were, instantaneous.

Blood-letting, and other suddenly debilitating remedies were seldom so necessary in this disorder as in the common catarrh, and fewer consumptions were the consequence of it, than might have been expected from a common cold among an equal number of persons.

There is no disease to which the human body is liable, so extensive in range, so sudden in attack, so furious at the beginning, so rapid in its course, and at the same time attended with so little danger.

Of the Remote Cause.

In a tract of this kind it will probably be expected that the author should enquire into the *original cause* of the disease on which he writes, as such an essay is commonly supposed to exhibit the candidate's medical researches, as well as his medical reading. With regard to this subject, it may not be improper to observe, that it is one which has been considered as very abstruse in every age, and country where medical science has been cultivated; and on which it is not only difficult what to say, but what to leave unsaid. Here I must confess my "*knowledge* dwells upon the surface of things(5)."

The present received opinion is, that this species of catarrh arises from contagion, which possibly may be true; yet to my mind it appears no easy matter to conceive how the disease can spread so far and wide in so short a space of time as we perceive it does, or how it can affect persons many miles a part, at the *same time* where there had been no previous direct or indirect intercourse—if propagated only by “a matter arising from the body of a man labouring under it.”

Hippocrates when speaking of epidemic diseases in general, says, “when many are seized with the same disease at one time, the cause is chiefly to be attributed to what is most common and made use of by all. This is certainly what we inhale in inspiration.” Galen is of the same opinion : “For we all neither are exposed at the same time to other causes, nor are subject to them at all times; but the air alone surrounds us all abroad, and is taken in by all in respiration.”

That the remote cause of the influenza is *chiefly to be sought for in the air*, is rendered highly probable by the

following facts. Van Swieten in his comment on the 1407th aphorism of the justly admired Boerhaave, tells us upon the authority of Forestus, that a distemper, which he calls a *malignant catarrh*, "arose as it were from a certain vapour, since thick clouds of an ill smell preceded it for some days, breaking out so suddenly, that it seized almost instantly a thousand persons."

About the latter end of the year 1732, and the beginning of 1733, when epidemic catarrhs raged throughout all Europe, we are informed that the like distemper prevailed in Africa, and even persons at sea, though at an immense distance from land, were affected in the same manner(6).

The like has been observed much later : For in the year 1780, when the ship Atlas left Malacca, there was no epidemic disease in that place ; yet upon her arrival at Canton, it was found that at the very same time, that the crew on board the Atlas in the China Seas had the influenza, the same disorder raged at Canton.

" On the second of May 1782, the late Admiral Kempenfelt sailed from Spithead with a squadron under his command, of which the Goliah was one, whose crew was attacked with the influenza on the 29th of that month ; the rest were affected at different times ; and so many of the men were rendered incapable of duty by this prevailing sickness, that the whole squadron was obliged to return into port about the second week in June, *not having had communication with any shore*, and having cruized solely between Brest and the Lizard."

(6) Memoirs pour servir à l'histoire des Infectes, par Reaumur, Page 435.

About the sixth of May, Lord Howe sailed for the Dutch coast, with a large fleet under his command; *all were in perfect health*; towards the end of May the disorder first appeared in the Rippon, and in two days after in the Princess Amelia. Other ships of the same fleet were affected with it at different periods; some indeed not until their return to Portsmouth about the second week in June. *This fleet also had no communication with the shore until their return to the Downs*, on their way back to Portsmouth, towards the third or fourth of June(7).

To these facts the following passage from the late celebrated Doctor Cullen, seems somewhat opposed: This disease “has seldom appeared in one country of Europe, without appearing *successively* in every other part of it; and, in some instances has been even (8) transferred to America, and has been spread over that continent, as far as we have had opportunities of being informed(9).”

From whence the doctor obtained his information I know not; but, as he has not mentioned a single circumstance whereby a person might be enabled to judge of the *accuracy* of it; and as there are objections to the probability of his information being so accurate as to satisfy us that the disease was transferred in the manner he supposes, I am obliged to consider this passage as an assertion not fully supported, either by concomitant circumstances, or subsequent observations; though, at the same time, I acknowledge it to be the assertion of a very respectable, of a very eminent physician. But from the

(7) Lond. Med. Trans. Vol. 3. Page 61.

(8) In the year 1782, the influenza appeared at London between the 12th and 18th, at Oxford in the third week, and at Edinburgh on the 20th day of May. Could the disease have been *transferred* to these three cities in such quick *succession*, by things imbued with the contagion, or by persons labouring under the complaint! But more of this hereafter.

(9) Cullen's First Lines, Vol. 3. Page 104.

nature of things, his information in its full extent, could not have amounted to more than—that the disease was later in appearing in some parts of Europe than in others ; and that it was not only later in appearing in America, than in some parts of Europe, but that the inhabitants of that *amazingly extensive continent* were not affected with it *all at once*. Now what can this prove? That the disease is propagated only by contagion?—Surely not. But granting all that the Doctor has asserted to be matter of fact, that the disease has appeared in every part of Europe *successively*, and has been *transferred to America*; will this enable us to account for the appearing of it in the Island of Bourbon, situate in Africa, at the identical time that it raged in Europe; or explain in what manner it broke out at the same time among persons at sea and on land, where those at sea had not even the smallest communication either with those on land, or with any other person whatever? We must either *deny* the truth of these facts (10), or admit that the disease is not

(10) The Author had not an opportunity of consulting the first volume of the Medical Communications on the subject of the Influenza until several months after this essay had been prepared for the press; and his surprise was not a little upon reading it, as he there found an anticipation of several observations which he supposed had first occurred to himself. But notwithstanding he conceives that much gratitude is due the Society for their generous exertions in favour of the healing art, that the design of the work is laudable, and that the publication contains a vast collection of valuable information respecting this wonderful epidemic;—yet cannot help observing that the following part of the “Account of the Epidemic Catarrh, of the year 1782,” appears exceptionable, in as much as it opposes opinion to matter of fact, and substitutes assertion in the room of argument :

“ It is credibly affirmed, that the crews of several ships were seized with the Influenza many miles distant from land, and came into various ports of England labouring under it; the same thing is said to have happened to ships in the East-Indies, and other parts. A want of precision, or of authentication respecting the circumstances above alluded to, makes it improper to draw any inferences from them”. (12)

That the facts are precise will immediately appear upon re-

(12) Ibid. Page 65.

always induced by contagion, according to the common acceptation of that word; that is, the disease cannot in these instances, be supposed to have been propagated by personal communication (11).

ferring to them, and if credibly affirmed, wherefore is it improper to draw any inferences from them! This may be a convenient way of getting over objections which militate against pre-conceived and favourite opinions; but fortunately for science, this mode of *barely denying facts*, is very unsuccessful in producing conviction or of establishing doctrines, in the present state of medical philosophy. Before we were denied the privilege of inferring from them, it would have been proper to have shewn that they were not *precise*, or *authentic*, or that they did not apply. But without even attempting to do this, the compiler endeavours to elude their force by suggesting distrust; not by argument, but by telling us that “without pretending to deny the truth of them, the following Anecdote will serve to shew that *great caution* is requisite before they are admitted.”

“ Mr. Henry of Manchester, informed the society, from what he thought good authority, that a ship from the West-Indies to Liverpool, was by stress of weather driven out of her proper course, into a higher north latitude, where her whole crew were seized with the influenza; but wishing afterwards for more accurate information on the subject, he wrote to Doctor Currie of Liverpool, desiring him to make every necessary inquiry into the matter; that gentleman, who took great pains to investigate the affair, at last met with the surgeon of the vessel, from whom he learnt that before the crew were seized with the disorder, they had been off the North of Ireland, and had some communication with the inhabitants of those parts.”

May we not ask if this anecdote proves *any thing in point*? Is it precise? At what time did this communication take place; in the winter, spring, summer, or autumn, and in what year? Were the persons with whom the communication was had, then labouring under the disease; or was it then *prevalent in that part of Ireland*? This anecdote, which was intended to excite in us a distrust of the truth of the facts before alluded to, proves nothing except its own want of *precision*, and *deficient authentication of circumstances*. For unless it had been shewn that the disease prevailed among the inhabitants with whom the crew had this communication prior to, or at that time, the fact only goes to shew that such a communication took place, and subsequent to that the influenza appeared on board the vessel. But supposing that Mr. Henry was at first mistaken, and that the crew were infected by the inhabitants as the anecdote *indirectly suggests*, this supposition can in no wise affect the authenticity either of the facts before mentioned, or of any other facts whatever.

(11) “But the greatest number concurred in opinion, that

The foregoing fact respecting the co-incident appearance of the Epidemic Catarrh in Africa and Europe, first mentioned by Reaumur [who derived his information from the letters of Cassini] is quoted by Van Swieten, in his chapter on Epidemic diseases, and must have been known to Doctor Cullen, who was unquestionably, well acquainted with the writings of that *great man*. My own observations, as far as they have gone, are perfectly consonant with this fact; nor can I conceive why the influenza might not arise as spontaneously in America, as in Europe, and *there* as readily as in the island of Bourbon. The *Morbific matter exciting the disease* must have originated at *sometime*, and *somewhere*; and a cause like to that which gave rise to it in any one country, at any one point of time, might produce it in another country at the same time, under similar circumstances.

It may be objected, that the disease could not have arisen from the air, because the countries here mentioned must experience at any particular time, very different states of that element. This argument may be allowed to have some weight against the supposition of its arising *entirely* from the *sensible qualities* of the air, but *extremely little* against the probability of its taking birth "from some inexplicable variety of exhalations contained in it, which mixing with our fluids, or by their stimulus disorder our bodies (13)." This was the opinion of the deservedly celebrated Herman Boerhaave respecting epidemics in general, and, as far as I have been able to discover, it has not been overthrown by *fair argument*, or subsequent observation, at least as far it applies to the epidemic catarrh. This indeed was not the opinion of Boer-

the influenza was contagious, in the common acceptation of that word, that is to say, that it was conveyed and propagated by the contact, or at least by the sufficiently near approach, of an affected person." Med. Commun. Vol. I. Page 46.

(13) Aphorism 1403.

haave alone ; but also of most of those physicians who were famous for their assiduous attention to the true source of medical knowledge, the operations of nature. The antients 'tis true, were sometimes mistaken, although they studied nature ; and the moderns are not, perhaps, less frequently wrong in their opinions, notwithstanding the imminency of their discoveries ; not because they do not study nature at all, and study books alone ; but chiefly because they study her either too much through the medium of books and preconceived Hypotheses, or with a view to propagate *something new.*

And this is one great reason why we should seldom read the modern systems of physic, unless well armed with " a great deal of scepticism on the subject." We may, and indeed we ought to esteem some few of the writings, and opinions of the modern authors, and, with no impropriety, entertain a modest confidence in our own talents for observation ; yet it would be well not to overlook or despise the *medical records of nature* as handed down to us by the antients ; for in these there are certainly many useful remarks which appear to be at present forgotten. Doctor Cullen made war upon the antients, and, unfortunately for our art, with too much success ; for he not only delivered his pupils from the undue influence of great names, and scrutinized the writings of his predecessors with great freedom, but contributed much to render the reading as well as quoting the antient authors unfashionable. He exposed some of the errors of the humoral pathology, but was ~~not~~ not always equally happy in substituting truth in the room of them. The desire of being the discoverer of *something new*, and of being thought wiser than our forefathers, has perhaps, in some instances led to the advancement of useful knowledge ; but it has often proved the very hot-bed of error, and warped the judgment of persons the most ingenuous and enlightened.

Many diseases evidently owe their birth to the sensible qualities of the air, “ for with the seasons, the constitutions of men likewise change (14);” and though some of these do not become epidemic, yet many of those which do, only become so in consequence of such sensible qualities. Russel in his learned treatise on the plague, says, that without the concurrence of a pestilential state of air, the contagion of that disease when imported, even in Turkey, does not spread.

Did the influenza depend upon a *specific contagion* it must *always exist*, or we cannot possibly ascribe it to such a cause. The small pox, the venereal disease, &c. never intermit; but the influenza has become extinct, and again broke forth upon the world after a period of more than four-score years (15).

I do not assert, nor do I wish to be understood to mean, that the influenza is not at all contagious: On the con-

(14) Clifton's Hippocrates, Page 3.—Sydenham says Epidemics are admitted or excluded as the sensible qualities of the air favour or oppose them. On the same subject consult Fordyce on fevers, page 19, &c. Moisture with heat, and sudden changes from hot to cold, by raising much putrid vapour affects the elasticity of the fibres, destroys the fire and vivid circulation of the blood, and dissolves the humours beyond what a healthy state admits. At the very time the surface of the body requires the freest perspiration, the heat of the air makes the proper quantity of cloathing irksome to inconsiderate people; from whence it happens, that the most putrid effluvia, which should pass through the pores of the skin, are checked, grow caustic, and mix with the blood, while due care is not taken to preserve the juices from corruption by an antiseptic regimen; and, when they are corrupted sufficient regulations are not observed for carrying off the disorder, with efficacy or dispatch, by either proper cloathing, detergent medicines, or a suitable diet, &c.”

(15) It is recorded that a similar disease appeared in 1510, 1557, 1580, 1587, 1591, 1675, 1709, in the latter end of 1732 and in the beginning of 1733, in 1743, 1762, 1767, 1775, 1782, and in 1789. See Lond. Med. Trans. Vol. 3. Page 77.

trary, I am possessed of facts (16) which prove in the most incontestable manner, that it may be, and often is propagated from one person to another by means of contagion. But I mean, and the arguments which I have adduced, I trust, will warrant the conclusion, that the disease often does arise from "*some vicious quality of the air (17)*" or exhalation in it, as well as from a matter arising from the body of a man labouring under disease (18).

Considering the subject in this light, we shall be enabled to account for the progressive virulence (19) sometimes observable in this epidemic, without any manifest alteration in the sensible qualities of the air. The "*vi-*

(16) The following communication I received of Doctor Leib my preceptor in medicine : "In the year 1782, when the influenza, ravaged the sea coasts of Europe, the ship I was on board of captured a Spanish brig which had been taken by a privateer belonging to the British with whom we were then at war. All the crew on board the brig had the influenza, and we had scarcely cast anchor in the harbour of L' Orient, which was in a few days after the capture, before the greater part of the ship's crew were seized with the disease, and myself among the number."

(17) Hildanus supposed the cause of the Plague at Lausanne, and the neighbouring districts was not only contagion, but also *some vicious quality of the air.* For, says he, "the huts of the peasants and poor people were not exempt from the plague, though situated on the highest mountains, and at a distance from each other, and the peasants kept not the least intercourse with one another."

(18) "In some instances it was observed that the influenza did not shew itself in certain places until some one or more arrived at those places either actually labouring under the disease, or coming immediately from other places, whose inhabitants had been affected by it for some days : while, in other instances, very attentive and intelligent observers could not trace any communication between the families first attacked in the towns in which they resided, and other places, where the disease had previously appeared." Lond. Med. Trans. Vol. 3. Page 60.

(19) "It was also remarked that those who were attacked later from the time of the appearance of the disorder, commonly had it more severely, and were longer ill, &c. Med. Commun. Vol. I. Page 24.

cious quality" of it conspires with, and greatly assists the effluvia issuing from the sick, to encrease the malignancy of this distemper.

Of the Predisposing Cause.

The venerable Galen judiciously remarks, "*that no cause can affect without a predisposition of the body*(20) : otherwise all who are exposed to the rays of a summer sun would be seized with fevers, as well as those who use too much exercise, are passionate, or grieved. Moreover, all would fall sick during the dog-days, or die of the plague." This is a circumstance which requires very little proof to be admitted as true, the observation of every body supplying innumerable facts in its support. I shall therefore adduce but a few, nor should these be mentioned, but to combat the only argument of any importance which has been advanced against the idea of the remote cause of the influenza residing in the air.

Baron De Tott, in his Memoirs, informs us, that "the plague, which that year carried off a hundred and fifty thousand persons, in Constantinople, was then at its height. Obliged (says he) to direct the workmen myself, many of whom were attacked by the distemper, I had nothing to preserve me from it, but the salubrious smell of the forges, and the precaution of giving directions with the end of my cane. But, perhaps, what most preserved me from the infection was my never giving myself up to fear, and the melancholy ideas of its ravages present(21)."

(20) See a note by Doctor Rotherham in Cullen's First Lines, Vol. I. Page 52. "The predisposing is that which renders the body liable or capable of being affected by disease when the exciting cause is applied."

(21) Volume the second, Page the 83.

I have chosen this fact from amongst the multitude which might be brought forward, first, because the plague is the monarch of all diseases, the most highly contagious of any which afflict the human species ; and, secondly, because the Baron here relates a matter of fact, without regard to any particular theory in medicine. He was not preserved from the disease, as he supposes, by the *salubrious smell of the forges*, for that was as common to the workmen who were seized with the plague as it was to him ; nor was he preserved by the precautions which he observed in giving directions, so short a distance as the length of his cane (22) was certainly within the sphere of the activity of the infection. 'Tis true, Doctor Cullen is of opinion, that persons may be preserved from the contagion of the plague, by avoiding all near communication with the sick, or their goods, and "that it is probable, a small distance will answer the purpose, if, at the same time, there be no stream of air to carry the effluvia of persons, or their goods to some distance." It cannot, however, be imagined but that during the Baron's continuance at this place [which was a very considerable time] the wind blew perhaps, in every direction ; that, therefore, he must many times have been exposed to a "*stream of air*" passing over the bodies and goods of persons tainted with the pestilence, and that he was not preserved from the infectious miasmata either by the smell of the forges, or by giving directions with the end of his cane ; but by, what is more probable, his active life in which body and mind were vigorously employed, by his strict observance of temperance, and, by his never giving himself up to the debilitating influence of fear.

(22) The effluvia arising from the diseased, received into the ambient air, form a pestiferous atmosphere, more or less impregnated with these effluvia, as it recedes from their source. That contagion is thus communicated in the chambers of the sick, appears from persons being infected without touching the diseased body, or any thing in the room that may be supposed to harbour the infection." Rusiel on the Plague, Page 298.

In the fall of 1789, the influenza was very prevalent in the city of Philadelphia and its vicinity, and perhaps in many other parts of America. At that time I was seized with it myself, and was so ill as to be confined to bed for two days, nevertheless, the remainder of the family, which consisted of six persons of different ages, and of both sexes, entirely escaped every symptom of the disease(23).

Patrick Russel, who resided many years at Aleppo, and who consequently had the best opportunity of *seeing*, and *knowing* what he relates, says, that “some exposed every way to the infection [of the plague] as if invulnerable, remain found the whole season(24).” I am therefore decidedly of opinion with Doctor Cullen, that even “the most powerful contagions do not operate, but when the bodies of men exposed to the contagion are in certain circumstances, which render them more liable to be affected by it, or when certain causes concur to excite the power of it(25).” May we not, then, safely conclude that there is required a certain state of the system favourable to the action of the remote cause, to render it capable of receiving the infection; and that this remote cause of the influenza may *exist in the air*, and yet every person shall not be affected with this epidemic at the same time, as the predisposed state of the system may not be present in every person at this particular time(26).”

(23) “To others, and those numerous, it was so favourable as only to attack very few in each family.” Lond. Med. Trans. Vol. 3. Page 59.

(24) Page 305.

(25) First Lines, Volume the second, Page 246.

(26) “If the cause lay in the air all must have been seized at once,”—but as this was not found to be the case, and as the disease appeared at different periods in different towns and villages, Doctor Hamilton infers that the cause was contagion. But this is inferring too much; for even from his own account of Harpenden, Luton, and St. Albans it appears that at the first

The state of the system which is *necessary* to the formation of the disease may be inferred from the symptoms with which it is accompanied, particularly that “*prostration of strength, and impaired vigour in all the functions of the body*(27),” which almost always attend it. The predisponent causes of catarrhs in general tend likewise to designate it as a state of *more or less debility*. These causes, according to Cullen, are weakness of the system, and particularly the lessened vigour of the circulation, occasioned by fasting, by evacuations, by fatigue, by a last night’s debauch, by excess in venery, by long watching, by much study, &c. &c(28).

The influenza being contagious furnishes additional proof. “The bodies of men [says the last mentioned author] are especially liable to be affected by contagions, when they are any ways considerably weakened by want of food, and even by a scanty diet, or one of little nourishment; by intemperance in drinking, which, when the stupor of intoxication is over, leaves the body in a weakened state, &c. &c.(29)

But the following cases related by Doctor Hamilton, clearly develope this matter, and very satisfactorily prove that previous debility is absolutely necessary to the admission and formation of the disease. “A boy of about

of these places, though it is half way between the two latter, and several miles nearer London than St. Albans, the influenza shewed itself later than in either of the other two places. The manner in which he accounts for this difference of attack in point of time in these villages, forcibly applies in support of the doctrine which he wishes to explode. He informs us that Harpenden is on an eminence, the soil of a light dry nature, when compared to the others; and from hence, with great propriety concludes that the difference arises from “*its situation favouring less its exciting and predisposing cause.*”

(27) Currie’s account of the diseases of America, Page 102.

(28) First Lines, Volume the first, Page 134. And,

(29) At page 246, of the second Volume.

twelve years of age, of a stirring disposition, suffered severely ; yet escaped the disease, though the rest of the family had been ill some time, till after bathing with other boys in a river, and *remaining there longer than prudent*, when he was seized the next day with the influenza. We may add to this, that he was a valetudinarian for a long time before, but had lately overcome in a great measure all his complaints.”

“ A young gentleman at Luton [continues the same author], about twenty-three, of a volatile turn, and *lately a valetudinarian*, but who, for eight or ten weeks had so far recovered, as to be able to follow his amusements, and who, for this purpose, generally walked or rode, whether the weather was favourable or not, several hours a day, often at the same time indulging himself freely in the glass, *was at last* seized with the epidemic, and suffered severely(30).”

Of the Exciting Cause.

As truth is the object of which I am in search, and *not the pursuit of fame for new discoveries*, permit me once more to quote a passage from the great commentator of Hippocrates : “ In our bodies, as it were prepared for disease, *some external adventitious circumstance kindles a fever*, which of itself would not generate a violent disease, yet from the disposition of the body, every one of these is rendered, not the cause of the disease but the

(30) Doctor Hamilton after mentioning that soldiers suffered much from the influenza, owing to their irregular living, light cloathing, &c. &c. adds—“ The delicate also, and the valetudinarian, in all my observations were great sufferers, and still greater in proportion as they were exposed to the vicissitudes of the weather.” See Lond. Med. Memoirs from Page 432 to 438.

occasion(31)." The exciting or occasional cause of the influenza must therefore be that external circumstance which kindles the fever, to wit, the morbid miasma, or contagion which has been considered under the general head of the *remote cause*; though strictly speaking, the remote cause includes both the exciting and predisposing causes(32).

The Proximate Cause

Of every disease is that which immediately produces it, and whose removal effectuates the cure(33). The proximate cause of the influenza is nearly the same as that of a common catarrh from cold, as appears by the similarity of their symptoms, which differ only in degree. According to Dr. Cullen, "the proximate cause of catarrh (whether from cold or contagion) seems to be an increased afflux of fluids to the mucous membrane of the nose, fauces, and bronchiæ, along with *some degree of inflammation affecting these parts.*" The latter circumstance, says he, is confirmed by the appearance of the blood;" and it is this latter circumstance, viz. the degree of inflammation affecting these parts, which appears to me to be the proximate cause itself, and the increased afflux of fluids, a consequence of that inflammation(34):

(31) See a note by Doctor Rotherham quoted at page 17. "No disease can exist without an occasional cause; yet it is necessary, that at the same time, the state of the body be such as to admit that cause to take effect, or act."

(32) "Remote causes are of two kinds, viz. the predisposing and exciting, or as it is sometimes called the occasional." ibid.

(33) See the note above quoted—and Van Swieten's Commentaries, Vol. 1. Page 21—"A disease as an adequate effect, is the same with its complete or proximate cause, the presence of which supposes the disease, and the absence its removal."

(34) At our meals the membrane pituitaria is frequently irritated by sharp mustard, so as to cause the nose to run water; yet who, in this case, would assert that the proximate cause of this temporary complaint was an increased afflux of fluids to this membrane? Is not the *irritation* of this membrane the

It is unphilosophic to admit more causes than are absolutely necessary to explain the phenomenon ; and equally so to assign that as a cause which is only an effect. Is it not also, unphilosophic to combine a cause and its effect, and assign the combination as a cause ?

How is a secreting or exhaling surface induced to discharge a preternatural quantity of a fluid ? Is it not, either by some power which determines to that surface, or by some affection of the surface itself ? What shall we then suppose to be the proximate cause of this preternatural secretion or exhalation ? Without doubt the power which determines to that surface, or some affection of it, whereby it is compelled to secrete, or pour out in unusual quantity, and not the afflux of fluids to it. *Remove the cause, and the effect ceases,* is an axiom as old as philosophy itself, and happily applies to the present case. If we remove the extra-power which determines an unusual flux to the secreting or exhaling surface, it will perform its office in the ordinary manner ; nor will the same effect fail to take place upon removing the affection of this surface whereby it was constrained to secrete or exhale preternaturally. In the influenza, the power which constrains or compels preternatural secretion or exhalation [for it matters not which], is nothing else than an inflammatory affection of such a surface (35).

In that kind of gonorrhœa, which is brought on by venereal infection, Doctor Cullen observes, that the chief thing to be attended to is the *inflamed state of the ure-*

proximate cause ? This is what we first attempt to remove, and which we never fail to effect, by inhaling through the nostrils the grateful effluvia of a piece of wheaten bread. Is not this a case perfectly in point ?

(35) "More fluid circulates through, and is secreted, in a part that is inflamed, than when it is in a natural state." Motherby's Medical Dictionary, under the word Inflammatio.

thra," a circumstance which is not only *inseparable* from the disease, but "occasions all the troublesome symptoms that ever attend it."

Swediaur, in his excellent treatise on the venereal disease, calls the gonorrhæa virulenta, a *local inflammation* of the urethra in men, and of the vagina in women, the discharge being only the mucus usually secreted in preternatural quantity, somewhat changed in colour and consistence by the stimulus applied to these parts ; and in express terms, says *it is like the discharge from the nose and lungs, on taking cold, where the mucus assumes nearly the same appearance.*

It has already been remarked, that the proximate cause and symptoms in general of a catarrh from cold, and those of the influenza, were very nearly, if not altogether the same [except in degree] ; which may lead us to conclude, that as an inflammation of the lining of the urethra brings on a preternatural discharge of mucus from thence, altered in colour and consistence ; so, in the influenza, a like affection of the membrane lining the nose, fauces, and bronchiæ [being a similar secreting surface] will be productive of a resembling discharge.

A certain degree of inflammation favours a copious flow of mucus from the urethra, and a yet higher inflammation will suppress the running entirely, bringing on severe pains in different parts of the body, with an increased action of the heart and arteries. The like is observable in catarrhs, where a certain degree of inflammation excites a free discharge from the nose, fauces, and bronchiæ ; whilst an increased inflammation of the internal surface of these parts not only suppresses secretion there, but is followed by a sense of fullness in one or both nostrils, dysp-

nœa sicca, and a quickened pulse (36). This last, viz. the febrile action of the arterial system, is a natural consequence of inflammation in these parts; for, as F. Hoffman observes, and after him Doctor Fordyce, “any such impediment to the freer circulation of the blood, as destroys its equilibrium, is the essential character of a fever (37).” That increased inflammation produces such effects, is confirmed by uniform experience, as may frequently be seen in the patients affected with gonorrhœa, who use too astringent injections; for in this case they have the running checked, with an aggravation of every inflammatory symptom, seldom failing to bring on inflammatio testium, cystitis, or both, and an immense accumulation of misery.

Sydenham remarks, when treating of the epidemic fever and cough of 1675, that it “frequently proved very fatal to abundance of the common people, who, whilst they unadvisedly endeavoured to check the cough by taking *burnt brandy*, and *other hot liquors*, occasioned pleuritic or peripneumonic disorders; and by this irrational procedure rendered this disease dangerous, and often mortal, which of its own nature is slight, and easily curable.” But it sometimes happened (continues he), not only when the disease had been unskilfully treated, in the manner above described, but also spontaneously, at the beginning of the illness, or in a day or two afterwards, especially in *tender and weakly persons*, that the cough was succeeded by alternate intervals of heat and cold, a pain in the head, back, and limbs, and sometimes a tendency to sweat, especially in the night; all which symptoms generally followed the fever of this constitution, as it were of the lungs, *which occasioned a difficulty of breathing, stopped the cough, and increased the fever.*”

(35) “A fever accompanies every inflammation.” Van Swieten’s Comment. Vol. 5. Page 81.

(37) Fordyce on fevers, Page 14.

The obvious tendency of "burnt brandy and other hot liquors," taken down in such cases, would be to increase an inflammation already begun ; to stop the cough, or at least the execration of mucus from the lining of the bronchiæ ; to produce difficult respiration from the swelling of the inflamed membrane ; and, an unavoidable effect the foregoing, increased fever.

The manner in which the disease must *necessarily* originate, will likewise shew that these symptoms arise from the proximate cause here laid down ; and that the degree of this accounts for every variety observable in the influenza. For, whether the *morbid miasma* which constitute the exciting cause, be emitted from the body of one who has the disease, or be engendered in the atmosphere, or exhaled into it from putrifying substances, animal or vegetable, or in short, in whatever manner they may get there—it cannot be questioned, but that they *float in that element* (38), and enter with it in inspiration and deglutition ; and being retained by the tenacious mucus of the nose, fauces, lungs, stomach, and intestines, irritate and inflame these parts, thereby producing in the first instance, or secondarily, the train of symptoms which

¹ (38) "We have many examples to prove, that the air cannot hold, nor yet convey contagion to any distance. If it be mixed with atmospheric air, it is soon dissipated, perhaps chemically decomposed, if it be a compound body [possibly he would have been nearer the truth had he said recompounded, or neutralized], and its nature altogether changed." Lond. Med. Mem. Vol. 2. Page 429. Upon first reading this passage, I doubted whether the author meant seriously, as it appeared to me to be trifling, if not with *common sense*, at least with *common experience*, and with the testimony of some of the greatest authorities in medicine. See the quotations from Hildanus, Russel, &c. at pages 16 and 18—"It is well known, the stench of putrid carcases, gangrened limbs, the polluted stinking air of jails, &c. bring on malignant pestilential fevers, just as the putrid furies of a gangrened limb, absorbed into the blood, brings on a fever of the same kind." Huxham on fevers, page 243. See likewise on the same subject, Ferriar's Med. Essays, p. 236.

take place in this disease. Doctor Houlston of Liverpool, goes so far as to assure us, "that in sitting near an infected person, an irritation of the mucous membrane of the nose, was sensible, such as is produced by the dust of pepper, and which sneezing tended to remove.(39)."

Now, though it seems *almost certain* that the virus of every disease which is contagious, affects the part on which it has first fastened, before it disturbs the rest of the body, and assimilates to itself more or less of the humours which it there meets with; yet it would seem *possible* that some of it might be absorbed, and immediately taken into the circulation [in persons of lax habits], and there excite or increase a fever by its own stimulus, or by the stimulus of such part of the blood as it assimilates to its own nature(40). But, for my own part, I should suppose it a *rare occurrence in the influenza*, that the *matrices morbi*, in the first instance, enters the mass of blood

(29) Med. Commun. Vol. I. Page 57. See also James's Med. Dictionary under the word Catarrh. "But it is not to be doubted, that there is sometimes in the air such a *subtile caustic matter* which, being received in inspiration, insinuates itself into the glandulous parts, through which it passes, excites pain, tumor, and redness, and brings on a catarrhous fever." What this subtile caustic matter is *essentially*, may no doubt be very difficult to explain; but from analogy it would seem probable that it is the same with that which produces the plague, the jail or hospital fever, and, peradventure, an intermittent: and that the various appearances of these (seemingly different) diseases arise from the greater or less concentration of this matter, together with the accidental, though greatly diversifying circumstances of season, soil, cultivation, climate, &c. and also the manner of living, food, raiment, &c. &c. According to Dr. William Fordyce, "if animal bodies are in a decaying state, and the air be filled with their steams, they sometimes produce pestilential fevers; the steams of some decayed vegetables have the same effect. The effluvia of human bodies are likewise very hurtful to the air. Three thousand men living within the compass of an acre of ground would make an atmosphere of their own steams seventy-one feet high, which would soon become pestilential, without the winds to dispel it. The air of prisons for this reason produces mortal fevers." See his Inquiry into the causes, &c. of fevers, page 16.

(40) See Ferriar's Med. Essays, page 235.

without exciting a *local affection*; but as there are said to be some cases where the patients are instantaneously seized with, and exhibit all the other symptoms of the disease, we may, perhaps admit that in those cases, the local affection may not be present. However, such cases have *never* fallen under my observation (41).

Upon the whole, therefore, the proximate cause of the influenza appears to be a local inflammation of one, or more of the parts before mentioned, viz. of the mucous membrane lining the nose, fauces, aspera arteria, æsophagus, &c. &c. (42)

Of the Cure.

So moderate is the influenza in many instances, as to require but a few days refraining from the use of animal food, to lay in bed or keep within doors, taking at the same time some warm diluent drink, and to return gradually to the usual manner of living; whilst in others; again, great attention is absolutely necessary; and the cure difficult.

The treatment of this disorder must be either *local*, or *general*, or *both*; as will appear by attending to its history of symptoms, and its remote and proximate causes: But as most local remedies produce general effects,

(41) "I believe contagious miasma seldom, if ever, produce their effects by entering the vasa inhalantia on the surface of the body where the cuticle is not removed. I apprehend they more commonly make their way by the primæ viæ, the lungs, or other external passages; &c. &c."

Dr. Kirkland.

(42) "Some inflammation I will allow, says Doctor Hamilton, *the state of the mucous membrane* proved that there was a *degree of it present.*" Lond. Med. Mem. Vol. 2. page 456. After enumerating certain remedies which he used, adds—"with a linctus to mitigate the *burning heat and pain* I felt in my throat;" from which one would think the *degree of inflammation* in his own case was not very inconsiderable.

and general ones often relieve particular parts, it may be most proper to omit distinctions of this kind, and premise one *universal rule* by which the indications of cure are to be governed, viz. *The season of the year, the state of the system, and the symptoms present.*

1. **BLOOD-LETTING** is a proper and speedy remedy to take down the phlogistic diathesis, and may be either partial or general, according as the symptoms indicate. The pulse, though it may assist in determining the quantity of blood which should be drawn, and the frequency of the operation, it can by no means be allowed to direct us altogether in the use of this valuable remedy(43). From the great disposition which this fever discovered to degenerate into Typhus(44), we should be cautious in the use of the lancet, and all things else being equal, bleed less freely in the spring than in the fall of the year.

2. **CATHARTICS**, or purging medicines, are no doubt necessary, particularly if the patient be afflicted with a violent head-ach, a throbbing of the temporal arteries, much cough, constipation of the bowels, accompanied with a tense pulse : but as medicines of this kind debilitate the system considerably by a *single operation*, if

(43) "Where there is just reason to fear a contagious malignity in a fever, we should proceed with the utmost caution as to repeated bleeding." Huxham on fevers, page 228. See the 1st vol. of the Med. Commun. p. 75. Notwithstanding this epidemic [the influenza of 1789] was visibly of an inflammatory kind, it would not with us, admit of what is called the antiphlogistic plan." Currie on the Diseases of America, page 323: and at page 103, "Several were benefited by bleeding; but in general the patients recovered sooner when it was omitted, except when pneumonic symptoms; such as acute pain, and a full or hard pulse indicated it."

(44) "In the course of the disease there frequently appeared unequivocal signs of a putrid tendency." Med. Commun. Vol. I. page 80.

given in full dose, it would seem safer [for the reason suggested under the preceding head] to administer them so as to keep the body regular, or gently lax (45); or to supply their place either by clysters (46), or emetics in the manner next to be mentioned.

3. VOMITS. Whenever there appears to be an inflammation of the lungs, which may be known by stitches or acute pains about the chest, these would be improper, as tending to give exquisite and unnecessary pain; and would endanger the rupture of a blood vessel in the lungs, with all its bad consequences,—without any probability of their proving serviceable. An *early exhibition* of full vomiting is very proper, in order to bring on a determination of the fluids to the surface of the body (47), which not only contributes to the *expulsion of the exciting cause* (48), and thereby preventive of an inflammation of the

(45) "Gentle laxatives were frequently used with advantage in the beginning of the complaint, especially where there was a disposition to costiveness, strong purges do not appear to have been often given; and from general observation respecting the effects of bleeding, there is reason to think, they would in most cases have been prejudicial." Med. Commun. Vol. I. p. 38.

(46) Wallis's Sydenham, Vol. II. page 337.

(47) Emetics exhibited upon the *first attack* [of the influenza] were evidently of use in relieving the head and breast." Lond. Med. Trans. Vol. 2. page 73. "They do not appear to have been very generally used [in the epidemical catarrh of 1782], but all who did employ them, concur in opinion, that they were of great service, not only where there was reason to suspect an accumulation of mucus in the bronchial ramifications, but also where they were given chiefly with a view to assist in producing a speedy and copious perspiration." Med. Communications, Vol. I. page 25.

(48) "Before the miasma was fixed and propagated in the body, it was wholly carried off in several patients who kept in bed immediately after feeling the first attack, by a large perspiration. Other spontaneous evacuations, by vomiting, looseness or urine were less frequent, and did not seem to procure such immediate, and great relief, unless they were followed by a sweat."

Dr. Reimarus, Hamburg. See Med. Commun. vol. I. p. 30.

lungs, &c. but often brings on a salutary perspiration over the whole body; a copious secretion of mucus in the bronchiæ, fauces and nose; and in this, anticipating or assisting nature in her own way in bringing on a mild solution of the disease. It will therefore be best to limit *full vomiting* to the first stage of the complaint, and afterwards to supply its place by emetic medicines in small doses, frequently repeated, so as to keep up a pretty constant nausea: for which purpose the gum ammoniac, antimonial wine, or emetic tartar is usually prescribed; and, though any one of them will answer tolerably well, the latter being copiously diluted, and frequently given in small quantity, seems to have been attended with the happiest effects, by rendering the bowels moderately open, and keeping up a gentle diaphoresis (49). “ This medicine administered in this manner [in the opinion of Doctor James Carmichael Smyth], had also a very remarkable effect in bringing on a remission of the febrile symptoms, and in accelerating the termination of the disease.”

However the *long continued use* of antimonials (50), or of nauseating medicines of any kind, is apt at length, to debilitate the stomach so much as to render it in a good measure, incapable of retaining food, drink, or medicine; and this, perhaps, at a time when they are most needful. These medicines likewise soon loose their sudorific power over the system, and, as Dr Donald Monro assures us, even James’s celebrated febrifuge powders have occasioned such a purging as to *hasten the patients to their graves.*

(49) “ All attempts to *force sweat* appear to have done more harm than good.” Lond. Med. Trans. Vol. 2. page 72.

(50) “ Large doses of antimonials, or even smaller ones too frequently repeated, have sometimes brought on evacuations, which entirely sunk the patient.” Lind on hot climates, page 261. And,

On the same subject, see Dr. D. Monro’s Observ. vol. 2. p. 13 and 15—also Dickinson on fevers p. 115.

The MISTURA MUCILAGINOSA (51) which is very frequently used in the Philadelphia Dispensary, is an agreeable and efficacious medicine in most catarrhal complaints; particularly where the cough is very distressing, and the necessary evacuations have been previously made. A table spoonful every two or three hours, according as the cough, anxiety, morbid watchfulness, &c. are urgent, is the manner in which this excellent remedy is usually prescribed. This mixture possesses several advantages, as well from the medicines which it contains, as the due proportion in which they enter into its composition, and the facility with which its powers may be increased without becoming much [if at all] less agreeable to the patient. The tincture of opium will render it more anodyne in a given quantity, a few grains of tartar emetic will correct the constipating qualities of this, and the whole mixture is thereby more or less laxative; whilst their joint efficacy renders it more powerfully diaphoretic, with scarcely any alteration in its taste, or diminution of its demulcent quality. But I have seldom seen it necessary either to vary the form of the prescription, or give any other opiate (52); and I have observed at least a thousand instances since I attended the practice of the above institution,—where the use of it was attended not only with evident relief, but [as the patients sometimes emphatically expressed it] with "*blessed effects.*"

4. LOW DIET. Animal food seems to be very hurtful, especially in the beginning of the disease; it ought therefore to be immediately laid aside, and a light vegeta-

(51) R. Elixir: Paregoric: $\frac{3}{4}$ Vini Antimonial: $\frac{3}{4}$ ss Mucilag: Gum: Arabic:—Succ: Glycirrh: aa $\frac{3}{4}$ ss—Aquæ Fontis $\frac{3}{4}$ viij M.

(52) "Opiates were a common remedy with most physicians, and they all agree in testifying their great use; particularly in mitigating the cough, which was in many cases the most troublesome and tedious symptom of the disease." Med. Commun. Vol. I. page 38.

ble or milk diet substituted in its stead (53). Dr. Roth-
erham is of opinion that “ an abstinence from all food
would accelerate the cure ;” and possibly, in some
cases, it might have this effect, yet as the prescription
seems a harsh one, and might in many persons induce an
irritation from hunger much more dangerous than the
stimulus of a small quantity of bland aliment in the sto-
mach, it would be preferable to allow as much as would
allay this sensation. Low diet has its limits ; nor should
it be much longer persisted in than whilst the inflammato-
ry diathesis is present in the system.

A gentleman of the faculty in this city, who had the
influenza in the fall of 89, strictly adhered to the anti-
phlogistic regimen, and to his astonishment perceived the
disease, instead of abating, to grow worse : he reversed
the plan, lived generously, and got well (55).

5. DILUENT DRINKS. Of whatever kind the fe-
ver may be, these seem to be indicated. There is a great
variety of them, and but little preference ; as any of
them will answer sufficiently well, if a due attention be
paid to their temperature and quantity.

As a general rule, *tepid drinks* (56) would seem to

(53) What Doctor Sydenham has beautifully said, when pointing out the cure of the Quinzy, is strictly applicable here, viz. “ Meats of every kind, and likewise broths prepared from them, are *sacred*, and must not be touched.”

(55) “ A generous diet [in some instances] was highly con-
ducive to a more speedy recovery, and many bore a more lib-
eral use of wine than is generally given in catarrhs from cold.”
Lond. Med. Mem. V. 2. p 463.

(56) “ The drinking frequently of *tepid*, emollient liquors is a kind of internal relaxing fatus to the prime *vix*, *præcordia*, &c. which is of no small consequence, especially in inflammations of the lungs, pleura, &c. This was the practice of the antients, who gave little else in fevers, besides their watery dilu-ents, *ptisan*, or barley-water, *hydromel*, *oxymel*, &c.” Hux-
ham on fevers, page 245—See Doctor Wm. Fordyce’s inquiry
into the causes, &c. of fevers, pages 90, and 180.

be safest, as cold ones sometimes do injury in inflammations of the lungs, and in some instances, might check or prevent a salutary perspiration: but as there are certainly some exceptions to this rule, much must be left to the sagacity of the physician (57).

Pure water, whey, barley-water, water acidulated with currant-jelly, vinegar, lime-juice, &c. with or without sweetening, are all very proper drinks in this disease. Whilst an inflammatory diathesis prevails in the system, a little nitre or some such neutral salt may be dissolved in one or other of these drinks, and given with safety and advantage. Typhus, and typhoid cases require diluents also; but occasionally, the patients may be allowed wine-whey, wine and water, veal-broth, chicken broth, and pure unmixed wine, according to circumstances (58).

6. BLISTERS are frequently necessary in this complaint, and peculiarly so when pleuritic or peripneumonic symptoms become violent; in which case, they are to be placed as directly over the part affected as possible (59). When the influenza is attended with ophthalmies, head-ache, or acute pains in the eye-balls, blisters applied over the temporal arteries, to the nape of the neck, or behind the ears, are of *eminent service* (60).

(57) Brydoue says the Italians use ice and ice-water with great advantage in inflammations of the lungs; but I have not learnt that this practice has been imitated in America, and until experience shall have demonstrated more generally its safety, we should venture on it with some hesitation.

(58) "Proper dilution is unquestionably useful in all fevers, but certainly some require more than barley-water, and lemonade." Huxham on fevers, page 245. See also Lond. Med. Mem. vol. 2. page 459.

(59) "Blisters seldom failed to relieve the head, and to prevent too great a defluxion on the lungs." Lond. Med. Transact: vol. 3. page 73.

(60) There has been much contrariety of opinion with regard to blisters: some exclaim against frequent, and, as they

7. The PEDILUVIUM should never be omitted in the incipient stage of this, or of any other catarrhous affection. The patient may sit in water of a temperature somewhat higher than that of his own body (61), from five to thirty or forty minutes; taking, at the same time, or very shortly after, a few drops of antimonial wine in a little weak tea. The ease with which this remedy may be procured; being within the reach of every body, the suddenness of its effects, and the little danger attendant on its application, are no small recommendations in its favour. According to Dr. Hamilton, “ it determines to the surface, encourages a larger share of blood from the head and superior parts, to the lower; is generally followed by sleep, relieves delirium, moderates the cough, and removes sickness at the stomach, from the great sympathy between this organ, and all the parts of the body ; but especially with the surface(62).”

8. WARM AQUEOUS VAPOURS frequently received into the lungs by the breath, constitute a remedy of immense consequence in this disease. Many persons fancy that a little vinegar added to the warm water, improves its virtues considerably, the truth of which however has been questioned ; nevertheless, as the vapour, in consequence of this addition, feels more grateful to the lungs and fauces of some people, as it can do no injury, and as it may coincide with the wishes of the patients, it will

term it, indiscriminate use; others forbid the application of them where there is a putrid tendency only ; others admit them, but object to certain kinds in certain kinds of fevers, — as for instance cantharides in the jail fever, where they would prefer blistering with the steams of hot-water, or impias of vinegar, leaven, &c. Whilst others again, the most celebrated of whom is the late Doctor Brown, condemn their use in all cases whatever.

(61) See Huxham on fevers, at page 12.

(62) See his remarks on the influenza of 1782, in the second volume of the Lond. Med. Memoirs.

sometimes become a duty to prescribe in this way. The method of using or of applying the vapour, is of very little importance ; a basin filled with hot water, and the face placed over it, or the steam received through an inverted funnel, will answer as well as, and perhaps better than Mudge's inhaler.

Directions to Nurses, and attendants of the sick.

As the influenza is a febrile disease, and a contagious one also, it will be proper to pay attention to the air of the patient's chamber ; as the salubrity of this, which depends no less on frequent ventilation, than upon universal cleanliness, accelerates the cure, and is preventive of relapses. Nor is the temperature of it to be neglected ; for although cool air is undoubtedly useful in fevers, yet it is not less so in many cases, to support that degree of warmth which may promote a proper quantity of perspiration. A fire-place is of great use in purifying the air, and in some measure regulating the temperature of it, and where a choice can be had, the sick ought never to be put in a room in which there is not such a ventilator. Let me repeat it, every thing about the patient should be kept clean, and his linen frequently changed ; his bed placed some feet from the wall, and no curtains suffered to envelope it ; all unnecessary furniture should be removed, and no wearing apparel permitted to hang round the room. If at any time it should be found unadvisable to change the air of his apartment by opening the windows, doors, &c. it will be right to impregnate it with the steams of vinegar(63), or with the fumes which arise from brown sugar when thrown on a few coals. The present state of philosophy will not enable us to explain satisfactorily how the healthy change is produced ;—whe-

(63) "Steams of vinegar resist patrefaction by impregnating the air with it's powers." Fordyce on fevers, page 18.

ther the steams of the vinegar, or the fumes of the sugar neutralize, or decompose the morbid impurities issuing from the sick,—or in short how it is effectuated: but it is well we are *certain of the fact*, though we should forever be ignorant how it obtains.

Of Prophylactics

in the influenza little can be said with certainty, as we are yet so totally ignorant of the true nature of the maladies morbi; but it may perhaps be proper to observe that *equanimity*, and *temperance in eating and drinking*, are amongst the best preventatives of all disorders. Temperance is too indefinite a term, however, as that which is no more than *strictly necessary* to one person, might to another be a very dangerous excess; for which reason more ought to be left to the feelings of the person than to the judgment of the physician. When an epidemic rages, and indeed at all times, changes in the manner of living are dangerous; but especially so, if they be not gradually made, “left by the change some innovation should happen in the body,” as faith the great Hippocrates.

Of the Prognosis.

The influenza has brought on death in persons previously very much debilitated, and paved the way for it in some instances by disposing to dropsy, consumption of the lungs, &c. Yet the united testimony of all the writers upon this subject proves that it is seldom either obstinate or fatal(64): and as death or recovery in this disease is marked by no peculiar symptom (that I know of) it has

(64) See Med. Commun. vol. 1. page 40. The termination or consequences of this disorder were like every other part of it, extremely various.”

appeared to be useless to enter into a detail of doubtful circumstances. There is no part of our medical researches accompanied with so much uncertainty as is the prognosis of disease ; for, in the language of the poet, “*shadows, clouds, and darkness rest upon it.*”

I shall conclude this essay with remarking that, although the influenza is, as mentioned above, for the most part a mild disease, still it is not always without danger ; that if there be a risk in leaving our constitutions to struggle with the complaint, there is as much—nay, more to be apprehended from injudicious treatment ; that while in some cases we fancy we are assisting nature, we should be careful lest we be found contending with her to the great hazard of the patient ; that although medicines become the props of sinking life when judiciously administered, yet if dealt out by the rash and the unskilful it is justly to be feared they will be used improperly, in which case they are as dreadful as the *sword of the destroying angel*. By this I mean not to insinuate, that the faculty alone are to dispense medicines,—far from it ; but would wish to suggest, in the cause of humanity, the necessity of caution, as “bold practice” borders upon cruelty.

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